

## Engaging Students in Growing the Math, Science, and Social Studies Mindset



Many of students cringe or have anxiety when they hear the word “Math,” let alone, the word “Statistics.” Some even cringe or yawn when they hear the word “Science.” They may have developed a fixed vs. a growth mindset regarding Math. In other words, they may either believe that the ability to learn math or science is more due to genetics rather than effort; or, they do not want to put out the effort to learn math or science.

A student’s mindset can greatly affect their learning.

There are several ways that we can grow the math and science mindset while introducing students to basic math and science concepts. And perhaps...they may even begin to like math and science.

### Math Growth Mindset Tips

1. Show an inspirational video of students who struggle with Math, such as <https://www.youtube.com/watch?v=2cfXwL8kYHI&feature=youtu.be>  
more student videos: <https://www.youcubed.org/resource/mindset-boosting-videos/>
2. Show students how they are already using math in their everyday lives.
  - a. Ask students to closely read the following article:  
<http://oureverydaylife.com/use-mathematics-everyday-life-14225.html>  
(Remind students to note the “ads” and skip over them as they read).
  - b. Ask them to identify how they use math the same way as in the article or in other ways.
  - c. Show them how you used math today.
3. Ask students to complete a short, simple problem, and provide them supportive feedback on their success.
4. Provide students the opportunity to access apps and online games for math and debrief with them. <https://www.youcubed.org/resource/apps-games/>

Jo Boaler, a professor of Mathematics Education at Stanford University and director of “youcubed” has developed a tool with suggested instructional strategies that promote a growth math mindset (insert PDF).

### Science Growth Mindset Tips

1. Show videos of science stunts
  - 10 More Amazing Science Stunts for Parties – 4 minutes

<https://www.youtube.com/watch?v=NkyEOrQiGMQ>

2. Play the myth or reality game. From the website <http://www.zmescience.com/other/feature-post/10-quick-scientific-facts-will-blow-mind/>, list the 10 facts. Ask students to identify whether each is a myth or reality. Assign each student a fact and ask them to explore the site and determine if they are correct or not.
3. Have students conduct quick, easy science experiment and debrief key concepts.
  - Three Simple Science Experiments with Balloons – 3 minutes  
<https://www.youtube.com/watch?v=gIQ2NrnDHWc>
  - Four Edible Science Experiments – 2:38  
<https://www.education.com/collection/cgomes/easy-edible-kitchen-science-experiments/>
4. Provide students the opportunity to access apps and online interactive activities and games for math.
5. Allow students to explore and complete activities on the Math is Fun <https://www.mathsisfun.com/index.htm> and Cool Math <https://www.coolmath-games.com/0-mini-metro-london> websites. Cool Math also has games for social studies and science.

#### For Graphics, Tables, and Charts

1. Show students a picture and ask them what they think it means. (We will cover strategies for using pictures in Module Five on inference).
2. Find a simple graph or chart that is of interest to a student's interests or workplace goals and ask them to interpret.
3. Ask students to explore a career exploration site with charts and graphs. Ask them what they learned.
4. Allow students to access and play online science games and interactive activities.  
<http://learningscience.org/>

#### Social Studies Growth Mindset Tips

1. Below are a few examples of engaging students into the Declaration of Independence:

"It's Too Late to Apologize"

<https://www.youtube.com/watch?v=uZfRaWAtBVg> (Links to an external site.)  
[Links to an external site.](#)

## 2. Lesson and Video on using the Break Up Letter to Introduce the Declaration of Independence

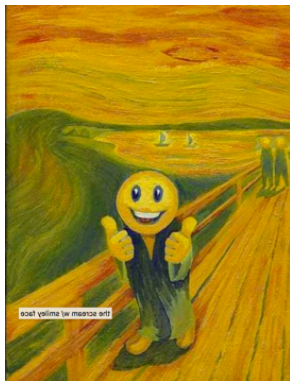
The lesson includes a video of an instructor introducing the lesson to students. It is 9 minutes long. This was also introduced at COABE, and I believe will need little modification for our adult education students

<http://blogush.edublogs.org/2013/12/10/im-breaking-up-with-you/>

2. Video demonstrating teaching the Declaration of Independence and connecting it to the present.

Making the Declaration of Independence Come Alive

<https://www.teachingchannel.org/videos/teaching-declaration-of-independence>



Turn the Scream into a Smiley Emoticon!